

CLAIMS:

1. An electrophoresis separator comprising an electrophoresis tank and a receiving tank as its main body; electrodes for driving electric current are provided separately in said electrophoresis tank and said receiving tank which are filled with electric conducting liquid to form an electric current passage; said electrophoresis separator is characterized by:

said receiving tank is used for placing carriers therein and provided with a slot on each side thereof to communicate with said electrophoresis tank; one side of each of said carriers is provided with a notch in corresponding to one of said slots, in order that after sample solution is dropped on said carriers, said carriers are directly inserted in said receiving tank; a bottom blocking piece provided at the bottom of said receiving tank directly covers the bottoms of said carriers and crevices between said notches and said receiving tank, and blocking sheets are inserted into said slots and notches, said blocking sheets are removed from said slots and notches after gel filled in said carriers is fixed and shaped, thus said gel contacts with said electric conducting liquid in said electrophoresis tank through said slots and notches; the other ends of the bodies of said gel in said carriers contacts said electric conducting liquid in said receiving tank through upper openings of said carriers directly, so that when said electrodes in said electrophoresis tank and

receiving tank are activated, electrons produced in said receiving tank by said electrodes are drifted to said electrodes of said electrophoresis tank through said gel in said carriers; thus electric current floating is resulted to  
5 cause an effect of molecule separation and analysis for samples in said gel.

2. An electrophoresis separator as claimed in claim 1, wherein,

10 said carriers are formed each by sure positioning of a first clamping sheet and a second clamping sheet to form a structure to receive said sample solution; there are positioning pins and positioning holes provided on said two clamping sheets separately; there are protruding sockets all of a specific height provided on one of said clamping sheets  
15 at the surface to be contacted with the other of said clamping sheets, when said two clamping sheets are abutted upon each other, said protruding sockets form a crevice between said two clamping sheets to enable an operator to position said two clamping sheets of said carrier promptly and get a thickness  
20 of said gel accurately after shaping.

3. An electrophoresis separator as claimed in claim 2, wherein,

clamping members are provided on one of said first and second clamping sheets of each of said carriers, so that when  
25 said two clamping sheets are abutted upon and positioned relative to each other, said clamping members are directly

used to fixedly clamp said two clamping sheets and assure firmness of said structure.

4. An electrophoresis separator as claimed in claim 2, wherein,

5 an elastic sheet is sandwiched between said first and second clamping sheets of each of said carriers in order to increase compactness between said two clamping sheets and help shaping of said gel so as to avoid gel spilling.

10 5. An electrophoresis separator as claimed in claim 3, wherein,

an elastic sheet is sandwiched between said first and second clamping sheets of each of said carriers in order to increase compactness between said two clamping sheets and help shaping of said gel so as to avoid gel spilling.

15 6. An electrophoresis separator as claimed in claim 2, wherein,

a convex grasp portion is provided on the top end of one of said first and second clamping sheets of each of said carriers in order that an operator grasps said carrier.

20 7. An electrophoresis separator as claimed in claim 6, wherein,

a finger hole is provided on said grasp portion for insertion of fingers.

25 8. An electrophoresis separator as claimed in claim 1, wherein,

said notches formed at the laterals of said carriers are

directly provided each at the bottom of a corresponding one of said first and second clamping sheets, and two fitting-in portions are provided respectively on said bottom blocking pieces to match and fit in said notches, an opening is provided  
5 at each of said fitting-in portions for insertion of said blocking sheets.

9. An electrophoresis separator as claimed in claim 1, wherein,

positioning members are provided in said electrophoresis  
10 tank to fix said receiving tank therein.

10. An electrophoresis separator as claimed in claim 1, wherein,

a cathode and an anode of said electrodes are provided simultaneously on the top of said receiving tank, and said  
15 cathode and anode are connected to said electric conducting liquid in said electrophoresis tank and receiving tank via conductors; and an upper lid is used to cover said reaction separator device, an electrode connector is provided on said upper lid in favor of supplying electric current for said  
20 electrodes.

11. An electrophoresis separator as claimed in claim 1, wherein,

positioning grooves are provided in said receiving tank to position said carriers, and press fixers are provided on  
25 the top of said receiving tank to fix said carriers.